IN THE CLAIMS:

Please amend claims 1, 3, 7, and 10-13 as follows:

1. (Amended)   A projection optical system which forms an image of a first plane on a second plane, comprising:

a first diffractive optical element arranged in an optical path between said first plane and said second plane;

a second diffractive optical element arranged in the optical path on the side of said second plane from said first diffractive optical element; and

an optical system having a negative power, arranged in the optical path between said first diffractive optical element and said second diffractive optical element.

3. (Amended)   A projection optical system which forms an image of a first plane on a second plane, comprising:

a diffractive optical element arranged in an optical path between said first plane and said second plane; and

an optical system arranged in the optical path between said first plane and said diffractive optical element;

wherein when a numerical aperture on the side of said second plane of said projection optical system is designated as NA, an imaging magnification of said optical systems from said first plane to immediately before said diffractive optical element is designated as β, the focal length of said diffractive optical element with respect to a predetermined wavelength is designated as f, and the distance from said first plane to

said second plane is designated as L, said projection optical system satisfies the following conditions:

$$1/|NA \cdot \beta| < 0.7$$

$$0.38 < f/L < 1.2.$$

7. (Amended) A projection optical system according to claim 1, wherein all diffraction patterns of said diffractive optical elements are formed on a flat substrate.

10. (Amended) A projection optical system according to claim 8, wherein a filter having a different transmittance according to each ring area is arranged in the vicinity of said diffractive optical elements.

11. (Amended) A projection optical system according to claim 1, wherein diffraction patterns of said diffractive optical elements are formed in a plurality of ring areas centered on an optical axis, each of said respective ring areas having a sawtooth cross-section having a positive power.

12. (Amended) A projection optical system according to claim 11, wherein diffraction patterns of said diffractive optical elements is formed in a first ring area and a second ring area, centered on a mutual optical axis, said first ring area being formed on the side of the optical axis from said second ring area, and having a sawtooth cross-section in which the diffraction efficiency becomes highest with regard to the 1st or -1st diffracted light, and said second ring area being formed on the side of the periphery